dlgv32 -- Windows 95 Display Software for DLG and DRG Data
Users Manual
(software version 2.0.1)
November, 1997

1. Introduction

This manual is for *dlgv32* Version 2.0.1. Earlier versions of the software may not contain all the features documented here. Later versions may contain additional features, or behave differently. To see the version of your software, select **[Help/About DLG viewer]** from the Menu Bar.

Version 2.0.1 is a patch version of 2.0 that fixes several minor bugs. For details of the changes, see the release notes in the file "release.txt." This file is placed in the *dlgv32* directory as part of the installation process.

The *dlgv32* software runs on Windows NT and Windows 95. It installs using the "run" option located on the start menu. A box will appear in which you type the name of the program and Windows will open it for you. Earlier versions of the software should be uninstalled **[Start/Settings/Control Panel/Add, Remove Programs]** before installing later versions.

dlgv32 displays two kinds of U. S. Geological Survey cartographic data sets: digital line graph-optional format (DLG-O) and digital raster graphics (DRG). The program is a simple viewer. It contains no editing, analysis, or other geographic information system (GIS) functions, and is not a substitute for commercial GIS software.

This program allows quick and easy preview of USGS data. Its purpose is to display data, **not** to interpret data. For example, the software displays cartographic attributes as major/minor codes (for example, 050 0200) rather than as text (for example, Shoreline), because only the codes are contained in the DLG data file. *dlgv32* is not a stand-alone tutorial for learning about USGS cartographic data. For information about DLG and DRG format, content, and structure, see the National Mapping Program GeoSpatial Data Standards page at http://mapping.usgs.gov/www/html/1stand.html.

dlgv32 is public domain software and may be freely copied and distributed.

2. Menu and Tool Bar Summary

Figure 1 shows the program Menu Bar and Tool Bar as they appear on startup. All Tool Bar functions are also accessible through pulldown menus from the Menu Bar. The Menu Bar contains some functions that are not on the Tool Bar.

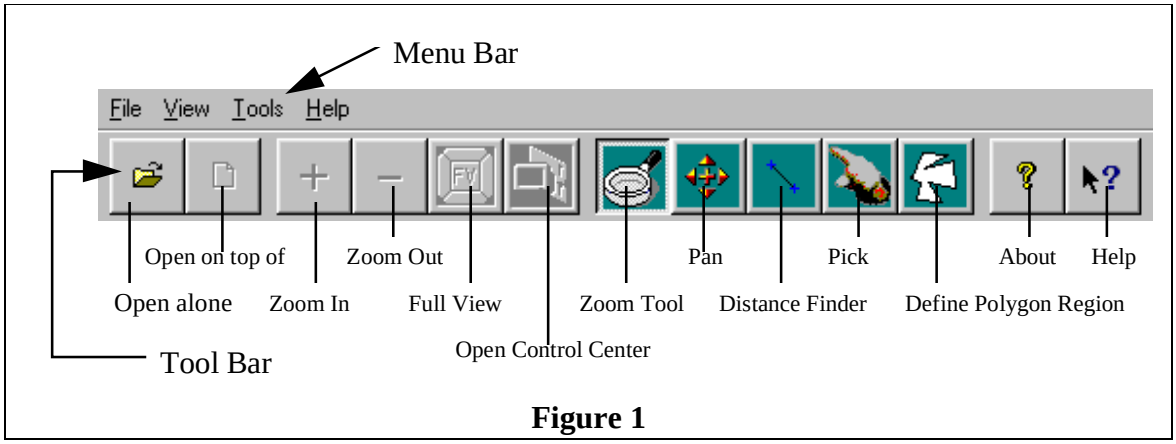

Figure 1

3. Loading Files

3.1 Digital Line Graphs

Choose **[open alone]** button from the Tool Bar. A standard Windows 95 **open** window appears. The file list shows files with extension *.do, .opt,* and *.dlg* by default. To display files with other extensions, select **all files** in the file types subwindow. Multiple files can

be selected using the standard Windows procedures of ctrl-click and shift-click (left mouse button).

3.2 Digital Raster Graphics

Choose **[open alone]** from the Tool Bar, then select **GeoTIFF (DRG)** files in the file types subwindow. Files with extensions .tif and .drg will be listed. *dlgv32* is not a general-purpose TIFF viewer and will not necessarily display all varieties of TIFF data.

3.3 Loading Multiple Files

dlgv32 will display multiple data sets in correct geospatial positions; that is, adjacent data sets can be mosaicked, and DLG data can be displayed on top of DRG data. Choose **[open on top of]** from the Tool Bar and select files.

3.4 Projections and Datums

The *dlgv32* display space adopts the coordinate system of the first data set opened. Subsequent data sets must be on the same projection and the same datum as the first data set. Attempts to open data sets on different projections or datums will result in an error message; for example, 1:2,000,000-scale DLG data on an Albers projection, and 1:100,000-scale DLG data on the Universal Transverse Mercator cannot be displayed at the same time unless one or both files are reprojected. Reprojections or datum transformations require different software.

4. Zoom and Pan

4.1 Zoom In

To zoom on the current center of the image, choose **[zoom in]** from the Tool Bar. The image will magnify by factors of 2.

To zoom to an area; choose **[zoom tool]** from the Tool Bar. Click and drag the left mouse button to define a rectangle. Release the mouse button to display the selected area in a full screen.

4.2 Zoom Out

To zoom out from the center of the image, choose **[zoom out]** from the Tool Bar. The image magnification will reduce by factors of two.

4.3 Pan at Constant Zoom

To change the center point of the image without changing the magnification, choose **[pan tool]** from the Tool Bar. Click on the image to define the new center point.

4.4 View Entire Data Set

Choose **[full view]** from the Tool Bar. The resolution is reduced to display all currently loaded data.

5. View Attributes

5.1 Header Information

Choose **[open control panel]** from the Tool Bar. Select one of the currently loaded overlays. Select **[header info]** button. The resulting display depends on whether the selected overlay is a DLG or a DRG. See the appropriate product standards for explanations of header information.

5.2 DLG Object Attributes

DLG spatial objects (lines, nodes, areas) have cartographic feature attributes attached to them. Attributes are stored as numeric codes. *dlgv32* simply displays the codes without attempting to interpret them. There are two ways to show these attributes in *dlgv32*:

1. To display the attributes of a single spatial element, choose **[pick]** tool from the Tool Bar. Click on a DLG line, node, or area. The element will be highlighted, and a window will appear that displays the major and minor code numbers for that element. Repeat for other elements.

2. To view attributes of a group of elements, choose **[pick]** tool from the Tool Bar. Click and drag with the left mouse button to define a rectangle. One of the elements in the box will be highlighted, and a window will appear that displays the major and minor code numbers for that element. Click the right mouse button repeatedly to cycle through all elements that touch the defined rectangle.

6. Change Display Characteristics

6.1 Background Color

Choose **[View/Background]** from the Menu Bar. An array of sample colors will be displayed. Select the color desired for the display background, then click **[OK].**

6.2 DLG Line Weights and Line Colors

Choose **[open control panel]** from the Tool Bar. Select one of the currently loaded DLG overlays. Choose **[options]** button. A window will appear that allows selection of line weight, symbols for points and nodes, and colors for lines.

6.3 DRG Color Intensity

Choose **[open control panel]** from the Tool Bar. Select one of the currently loaded DRG overlays. Choose **[options]** button. A window will appear that allows the intensity of the DRG to be darkened. The colors of the DRG cannot actually be changed, but darkening the image makes it easier to see DLG vectors displayed over the raster DRG.

6.4 Hide Selected Parts of Image

Choose **[define polygon region]** from the Tool Bar. Click (do not hold) on a point in the image. As the cursor is moved, a line is drawn from the point of the mouse click. Click again to define a second fixed point. Repeat as many times as needed to define a polygon. Click the **right** mouse button to close the polygon.

When the polygon is closed, a window appears with a list of currently open overlays. Select the overlays that the polygon should apply to and click **[OK].** The area inside the polygon remains displayed, while the area outside the polygon (on the selected overlays) becomes invisible.

To undo region hiding, choose **[open control center].** Select an active overlay, and choose **[remove clip regions].**

7. Joining DRG Quadrangles

To join two adjacent DRG's, (refer to section 3.3, Loading Multiple Files) use the **[define polygon region]** tool to trace the neatline of the top DRG (refer to section 6.4, Hide Selected Parts of Image). **Pan** and **zoom** can be used without resetting the **define polygon region** tool. Clipping can be suspended by selecting one of the other tools. You can therefore **zoom out** and **zoom in** on another point on the image between polygon point selections.

The boundaries of a USGS quadrangle are not straight lines, but are close enough that defining a polygon with the four corners is usually adequate for 7.5-minute quadrangles. To get a more accurate approximation of the quadrangle boundary, select additional points between the corners.

Quadrangles are joined only in the *dlgv32* display space. The program does not provide capabilities to save joined images as new data files.

8. Printing Images

dlgv32 contains a relatively simple capability to print portions of images. The program uses standard Windows 95 printing techniques, and should work with any printer that works with other Windows 95 applications. However, printing has been tested with only a very small number of printers, and is not considered one of the program's strongest features.

- Zoom to the area you are interested in printing. Center the features of interest in the display.
- Select **[File/Print Preview]** from the Menu Bar. A page will display showing what your printout will look like. Select the **close** button to close the print preview window.
- Select **[File/Print Setup]** to change printer settings. For example, to change page orientation from portrait to landscape.
- Select **[File/Print]** to send the page to the printer.

The appearance of printed page depends on several things, including the size and shape of your display window, printer type, and printer settings. *dlgv32* attempts to reproduce the magnification of the currently displayed image on the paper. Depending on the size and shape of the display relative to a paper page, more of the image may be printed than is displayed. Color and resolution characteristics depend on the type of printer.

dlgv32 provides no desktop publishing functions, such as the abilities to add boarders,

legends, additional data overlays, or custom symbolization.